```
EEEEEEEEEEEEEEE  DDDDDDDDDD       TTTTTTTTTTTTTTT
EEEEEEEEEEEEEEEE  DDDDDDDDDD      TTTTTTTTTTTTTTT
EEEEEEEEEEEEEEEE  DDDDDDDDDD      TTTTTTTTTTTTTTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEEEEEEEEEE       DDD      DDD          TTT
EEEEEEEEEEEE      DDD      DDD          TTT
EEEEEEEEEEEE      DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEE               DDD      DDD          TTT
EEEEEEEEEEEEEEEE  DDDDDDDDDD            TTT
EEEEEEEEEEEEEEEE  DDDDDDDDDD            TTT
EEEEEEEEEEEEEEEE  DDDDDDDDDD            TTT
```

EXE

Mod

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```
LL         DDDDDDD    IIIIII   VV      VV   IIIIII   SSSSSSSS   IIIIII   000000   NN      NN
LL         DDDDDDD    IIIIII   VV      VV   IIIIII   SSSSSSSS   IIIIII   000000   NN      NN
LL         DD    DD     II     VV      VV     II     SS           II     00    00 NN      NN
LL         DD    DD     II     VV      VV     II     SS           II     00    00 NN      NN
LL         DD    DD     II     VV      VV     II     SS           II     00    00 NNNN    NN
LL         DD    DD     II     VV      VV     II     SS           II     00    00 NNNN    NN
LL         DD    DD     II     VV      VV     II     SSSSSS       II     00    00 NN  NN  NN
LL         DD    DD     II     VV      VV     II     SSSSSS       II     00    00 NN  NN  NN
LL         DD    DD     II     VV      VV     II         SS       II     00    00 NN    NNNN
LL         DD    DD     II      VV    VV      II         SS       II     00    00 NN    NNNN
LL         DD    DD     II       VV  VV       II         SS       II     00    00 NN      NN
LL         DD    DD     II       VV  VV       II         SS       II     00    00 NN      NN
LLLLLLLLLL DDDDDDD    IIIIII       VV       IIIIII   SSSSSSSS   IIIIII   000000   NN      NN    ....
LLLLLLLLLL DDDDDDD    IIIIII       VV       IIIIII   SSSSSSSS   IIIIII   000000   NN      NN    ....

LL         IIIIII   SSSSSSSS
LL         IIIIII   SSSSSSSS
LL           II         SS
LL           II         SS
LL           II         SS
LL           II         SS
LL           II     SSSSSS
LL           II     SSSSSS
LL           II         SS
LL           II         SS
LL           II         SS
LL           II         SS
LLLLLLLLLL IIIIII   SSSSSSSS
LLLLLLLLLL IIIIII   SSSSSSSS
```

```
0001  0  %TITLE 'EDT$LDIVISION - divide line number by 10**(0-14)'
0002  0  MODULE EDT$LDIVISION (                        ! Pseudo division by 10**(0-14)
0003  0                    IDENT = 'V04-000'           ! File: LDIVISION.BLI Edit: JBS1005
0004  0                    ) =
0005  1  BEGIN
0006  1  !
0007  1  !***************************************************************************
0008  1  !*                                                                         *
0009  1  !*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                               *
0010  1  !*   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                *
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0025  1  !*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.               *
0026  1  !*                                                                         *
0027  1  !*                                                                         *
0028  1  !***************************************************************************
0029  1  !
0030  1  !
0031  1  !++
0032  1  ! FACILITY:      EDT -- The DEC Standard Editor
0033  1  !
0034  1  ! ABSTRACT:
0035  1  !
0036  1  !      This module replaces all division in EDT.  it determines the highest
0037  1  !      power of ten (from 10**0 to 10**14) which can be divided into a line
0038  1  !      number.
0039  1  !
0040  1  ! ENVIRONMENT:  Runs at any access mode - AST reentrant
0041  1  !
0042  1  ! AUTHOR: Sharon M. Burlingame, CREATION DATE: February 11, 1982
0043  1  !
0044  1  ! MODIFIED BY:
0045  1  !
0046  1  ! 1-001 - Original.  SMB 11-FEB-1982
0047  1  ! 1-002 - Minor modifications due to code review input.  SMB 24-May-1982
0048  1  ! 1-003 - Modify to use new 48 bit macro. STS 01-Oct-1982
0049  1  ! 1-003 - Modify to use new compare macro. STS 20-Oct-1982
0050  1  ! 1-004 - Improve listing appearance.  JBS 14-Jun-1983
0051  1  !--
0052  1
```

```
   54       0053  1  %SBTTL 'Declarations'
   55       0054  1  !
   56       0055  1  ! TABLE OF CONTENTS:
   57       0056  1  !
   58       0057  1
   59       0058  1  REQUIRE 'EDTSRC:TRAROUNAM';
   60       0497  1
   61       0498  1  FORWARD ROUTINE
   62       0499  1     EDT$$LDIV : NOVALUE;                                ! Divide a line number by 10**(0-14)
   63       0500  1
   64       0501  1  !
   65       0502  1  ! INCLUDE FILES:
   66       0503  1  !
   67       0504  1
   68       0505  1  REQUIRE 'EDTSRC:EDTREQ';
   69       0640  1
   70       0641  1  !
   71       0642  1  ! MACROS:
   72       0643  1  !
   73       0644  1  !     NONE
   74       0645  1  !
   75       0646  1  ! EQUATED SYMBOLS:
   76       0647  1  !
   77       0648  1  !     NONE
   78       0649  1  !
   79       0650  1  ! OWN STORAGE:
   80       0651  1  !
   81       0652  1  !     NONE
   82       0653  1  !
   83       0654  1  ! EXTERNAL REFERENCES:
   84       0655  1  !
   85       0656  1  !     In the routine
```

EDT$LDIVISION   EDT$LDIVISION - divide line number by 10**(0-14 16-Sep-1984 00:48:47   VAX-11 Bliss-32 V4.0-742   Page 3
V04-000   EDT$$LDIV - divide line number by 10**(0-14)   14-Sep-1984 12:23:32   [EDT.SRC]LDIVISION.BLI;1   (3)

F 15

```
 87   0657  1  %SBTTL 'EDT$$LDIV  - divide line number by 10**(0-14)'
 88   0658  1
 89   0659  1  GLOBAL ROUTINE EDT$$LDIV (                              ! Divide line number by 10**(0-14)
 90   0660  1      NUMBER,                                             ! The line number
 91   0661  1      D,                                                  ! Number of times divisible
 92   0662  1      I                                                   ! Power of ten to divide by
 93   0663  1      ) : NOVALUE =
 94   0664  1
 95   0665  1  !++
 96   0666  1  ! FUNCTIONAL DESCRIPTION:
 97   0667  1  !
 98   0668  1  !     This routine performs division by repeated comparisons and
 99   0669  1  !     subtractions.  It determines how many times a line number
100   0670  1  !     is divisible by a power of ten and returns a digit from 0-9.
101   0671  1  !
102   0672  1  ! FORMAL PARAMETERS:
103   0673  1  !
104   0674  1  !     NUMBER                          input/output parameter - line number to be divided
105   0675  1  !
106   0676  1  !     D                               output parameter - digit to be returned = number of times
107   0677  1  !                                     a power of ten divided the line number
108   0678  1  !
109   0679  1  !     I                               input parameter - power of ten to divide by
110   0680  1  !
111   0681  1  ! IMPLICIT INPUTS:
112   0682  1  !
113   0683  1  !     EDT$$L_LNOO
114   0684  1  !
115   0685  1  ! IMPLICIT OUTPUTS:
116   0686  1  !
117   0687  1  !     NONE
118   0688  1  !
119   0689  1  ! ROUTINE VALUE:
120   0690  1  !
121   0691  1  !     NONE
122   0692  1  !
123   0693  1  ! SIDE EFFECTS:
124   0694  1  !
125   0695  1  !     The value in NUMBER is decreased by D * 10**(I)
126   0696  1  !
127   0697  1  !--
128   0698  1
129   0699  2     BEGIN
130   0700  2
131   0701  2     EXTERNAL
132   0702  2         EDT$$L_LNOO : LNOVECTOR [14];
133   0703  2
134   0704  2     LOCAL
135   0705  2         DIGIT,
136   0706  2         LINNO : LN_BLOCK;
137   0707  2
138   0708  2  !+
139   0709  2  ! Fetch the line number into a local
140   0710  2  !-
141   0711  2     MOVELINE (.NUMBER, LINNO);
142   0712  2  !+
143   0713  2  ! Determine how many times this power of ten will divide the line number
```

G 15

EDT$LDIVISION   EDT$LDIVISION - divide line number by 10**(0-14 16-Sep-1984 00:48:47   VAX-11 Bliss-32 V4.0-742   Page 4
V04-000   EDT$$LDIV - divide line number by 10**(0-14)   14-Sep-1984 12:23:32   [EDT.SRC]LDIVISION.BLI;1   (3)

```
;  144    0714  2  !-
;  145    0715  2       DIGIT = 0;
;  146    0716  2
;  147    0717  2       WHILE (CMPLNO (LINNO, EDT$$L_LNOO [.I]) GEQ 0) DO
;  148    0718     !+
;  149    0719     ! We've found the correct power of ten
;  150    0720     ! Find the digit corresponding to this power of ten
;  151    0721     !-
;  152    0722  2       BEGIN
;  153    0723  3       SUBLINE (EDT$$L_LNOO [.I], LINNO);
;  154    0724  3       DIGIT = .DIGIT + 1;
;  155    0725  2       END;
;  156    0726  2
;  157    0727  2  !+
;  158    0728  2  ! Transfer the digit and new line number to return parameters
;  159    0729  2  !-
;  160    0730  2       .D = .DIGIT;
;  161    0731  2       MOVELINE (LINNO, .NUMBER);
;  162    0732  1       END;                                   ! of routine EDT$$LDIV


                                         .TITLE   EDT$LDIVISION EDT$LDIVISION - divide line numbe
                                                       r by 10**(0-14
                                         .IDENT   \V04-000\

                                         .EXTRN   EDT$$L_LNOO

                                         .PSECT   _EDT$CODE,NOWRT,  SHR,  PIC,2

                        003C 00000       .ENTRY   EDT$$LDIV, Save R2,R3,R4,R5           ; 0659
                   5E    08 C2 00002      SUBL2    #8, SP                              ; 0711
       6E  04  BC        06 28 00005      MOVC3    #6, @NUMBER, LINNO
                   52    D4 0000A         CLRL     DIGIT                               ; 0715
       50      0C AC     06 C5 0000C      MULL3    #6, I, R0                           ; 0717
                   51 00000000G0040 9E 00011      MOVAB    EDT$$L_LNOO[R0], R1
       04  A1     04 AE  B1 00019 1$:     CMPW     HIGH_1, 4(R1)
                   07    1F 0001E         BLSSU    2$
                   10    12 00020         BNEQ     4$
       61         6E    D1 00022         CMPL     LOW_1, (R1)
                   05    1E 00025         BGEQU    3$
       50         01 CE 00027 2$:         MNEGL    #1, R0
                   02    11 0002A         BRB      5$
                   04    12 0002C 3$:     BNEQ     4$
                   50    D4 0002E         CLRL     R0
                   03    11 00030         BRB      5$
       50         01 D0 00032 4$:         MOVL     #1, R0
                   14    19 00035 5$:     BLSS     6$
       50     06 AE B0 00037            MOVW     UPPER_WORD, SAVE                    ; 0723
       6E         61 C2 0003B            SUBL2    (R1), LINNO
       04  AE 04 A1 D9 0003E            SBWC     4(R1), LINNO
       06  AE         50 B0 00043         MOVW     SAVE, UPPER_WORD
                   52    D6 00047         INCL     DIGIT                               ; 0724
                   CE    11 00049         BRB      1$                                  ; 0717
       08  BC        52 D0 0004B 6$:     MOVL     DIGIT, @D                           ; 0730
       04  BC    6E    06 28 0004F        MOVC3    #6, LINNO, @NUMBER                  ; 0731
                   04 00054              RET                                          ; 0732
```

H 15

EDT$LDIVISION   EDT$LDIVISION - divide line number by 10**(0-14 16-Sep-1984 00:48:47   VAX-11 Bliss-32 V4.0-742   Page   5
V04-000   EDT$$LDIV   - divide line number by 10**(0-14) 14-Sep-1984 12:23:32   [EDT.SRC]LDIVISION.BLI;1   (3)

; Routine Size: 85 bytes,   Routine Base: _EDT$CODE + 0000

; 163   0733 1
; 164   0734 1 !<BLF/PAGE>

I 15

EDT$LDIVISION   EDT$LDIVISION - divide line number by 10**(0-14 16-Sep-1984 00:48:47   VAX-11 Bliss-32 V4.0-742   Page 6
V04-000   EDT$$LDIV - divide line number by 10**(0-14)   14-Sep-1984 12:23:32   [EDT.SRC]LDIVISION.BLI;1   (4)

```
; 166          0735 1 END                                      ! of module EDT$LDIVISION
; 167          0736 1
; 168          0737 0 ELUDOM
```

```
;
;
;                              PSECT SUMMARY
;
;       Name                    Bytes                        Attributes
;
; _EDT$CODE                        85  NOVEC,NOWRT, RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)
```

```
;
;                        Library Statistics
;
;                                      -------- Symbols --------      Pages      Processing
;       File                           Total   Loaded   Percent      Mapped     Time
;
; _$255$DUA28:[EDT.SRC]EDT.L32;1          377      9        2          40        00:00.2
; _$255$DUA28:[EDT.SRC]PSECTS.L32;1         2      1       50           7        00:00.1
```

```
;                         COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACEBACK/LIS=LIS$:LDIVISION/OBJ=OBJ$:LDIVISION MSRC$:LDIVISION.BLI/UPDATE=(ENH$:L
;       DIVISION)

; Size:          85 code + 0 data bytes
; Run Time:         00:11.7
; Elapsed Time:     00:14.6
; Lines/CPU Min:    3789
; Lexemes/CPU-Min: 13300
; Memory Used:  85 pages
; Compilation Complete
```

KEYPADDEF
LIS

LDIVISION
LIS

KEYDEFKEY
LIS

KEYFMTSTR
LIS

LDEFK
LIS

LFILL
LIS

KEYCHR
LIS

KEYIMMINP
LIS

LDELETE
LIS

KEYCOM
LIS

KEYPUTCHR
LIS

LCLEAR
LIS

LFCOUNT
LIS

KEYPAD
LIS

LDEFM
LIS

LFLNO
LIS

KEYTRNCHR
LIS